UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,882	03/25/2004	Matthew E. Gande	LA/1-22869/P1/CGC 2147	7795

324 7590 04/20/2007

CIBA SPECIALTY CHEMICALS CORPORATION
PATENT DEPARTMENT
540 WHITE PLAINS RD
P O BOX 2005
TARRYTOWN, NY 10591-9005

EXAMINER	
KRISHNAN, MALINI	
ART UNIT	**PAPER NUMBER**
1714	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/809,882	GANDE ET AL.	
	Examiner	Art Unit	
	Malini Krishnan	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-11 and 13-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-11, 13-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed March 23, 2007 has been received and claims 1, 4-11 and 13-21 are now pending. All outstanding rejections are withdrawn in light of applicant's amendment.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Rejections - 35 USC § 103

3. Claims 1, 4-11, 13-15, 17-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Fava (5460634) in view of *Titanium Metals Corp. of America v. Banner,* 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Fava discloses a diesel fuel composition comprising a diesel fuel, a cetane improver, and a nitroxide compound. Cetane improvers are organic nitrates such as 2-ethylhexyl nitrate (col. 5, lines 45-48). Stable nitroxide compounds can comprise a nitroxyl moiety flanked by two tertiary carbon atoms, where the flanking carbon atoms may be linked by bridging groups. Further, a specific example of the stable nitroxide compound is 4-hydroxy-2,2,6,6-tetramethylpiperdinyloxy (col. 2, lines 53-66; col. 3, lines 1-40). The nitroxide can be found present in an amount from 1 to 1000 ppm, by weight, based on the weight of the entire formulation (col. 3, lines 40-50). Other additives, such as amine-formaldehyde products as antioxidants can be included in the composition in an amount of from 5 to 500 ppm by weight, examples of which are well known in the art (col. 6, lines 26-40). Additionally, relative proportions of the additives to one another is 1:500 to 500:1 parts by weight, which includes 1:10 to 10:1 parts by weight (col. 6, lines

44-47). Further, filterability is improved through reduction of particulates (table 1, col. 7). It is the examiner's opinion that the reduction of particulates would reduce clogging of filters, and would thereby improve filterability. The cetane number of Fava is disclosed as 51.3 (example 1).

Fava is silent with respect to the cetane number being less than or equal to 50.

It is the examiner's position that the fuel composition of Fava, including a diesel fuel having a cetane number of 51.3, would have the same properties as one including a fuel with a cetane number of less than or equal to 50. Further, the additives produce the same effects and perform the same function as the instant application that the examiner believes the slight difference in cetane number would not change the overall compostion of the fuel. Applicant's attention is drawn to *Titanium Metals Corp. of America v. Banner,* 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), which states that claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize a fuel having a cetane number less than or equal to 50 as the fuel in Fava because it is close enough to the claimed cetane number that it would be expected to have the same properties.

4. Claims 16 and 21 are rejected under 35 U.S.C. 103(a) over Fava in view of *Titanium Metals Corp. of America v. Banner,* 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), and further in view of Pialet (4934303).

The discussion of Fava and *Titanium Metals Corp. of America v. Banner* in paragraph 3 above is herein incorporated by reference.

Fava is silent with respect to: (i) the inclusion of at least one antioxidant compound selected from the group consisting of aromatic amine antioxidants and hindered phenolic antioxidants.

Pialet discloses a diesel fuel composition comprising diesel fuel, cetane improver, and antioxidants such as hindered phenols and aromatic amines. The antioxidant is beneficial to the composition because they prevent accumulation of organic peroxides (col. 7, lines 3-15).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize the antioxidants of Pialet in the composition of Fava in order to incorporate beneficial properties of preventing accumulation of organic peroxides.

5. Claims 1, 4-15, 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahil (4389505) in view of Fava (5460634).

Cahil discloses a diesel fuel composition comprising a diesel fuel with a cetane number less than 50, and at least one cetane improver. The cetane improver of Cahil is an N,N-disubstituted organic nitroxide, such as 2,2,6,6-tetramethylpiperidine-1-oxyl, which slightly improves the cetane number (table II, col. 6). The nitroxide compound is included in amounts from about 0.15 to about 2 weight percent of composition (table II, claim 1).

Cahil is silent with respect to: (i) the cetane improver being an organic nitrate, (ii) the stable nitroxide compound being bis(1-oxyl-2,2,6,6-tetramethylpiperidin-4-yl or 4-hydroxy-1-oxyl-2,2,6,6-tetramethylpiperidine, (iii) amount of stable nitroxide as from about 0.1 to 1000 ppm, 0.2 to about 100 ppm, 0.5 to about 25 ppm, (iv) a ratio of nitroxide:antioxidant as 1:99 to 95:5, 1:10 to 10:1, 1:5 to 5:1, and 1:3 to 3:1, and (v) improving filterability using the diesel fuel composition.

Fava discloses a diesel fuel composition comprising a diesel fuel, a cetane improver, and a nitroxide compound. Cetane improvers are organic nitrates such as 2-ethylhexyl nitrate (col. 5, lines 45-48). Stable nitroxide compounds can comprise a nitroxyl moiety flanked by two tertiary carbon atoms, where the flanking carbon atoms may be linked by bridging groups. Further, a specific example of the stable nitroxide compound is 4-hydroxy-2,2,6,6-tetramethylpiperdinyloxy (col. 2, lines 53-66; col. 3, lines 1-40). The nitroxide can be found present in an amount from 1 to 1000 ppm, by weight, based on the weight of the entire formulation (col. 3, lines 40-50). Other additives, such as amine-formaldehyde products as antioxidants can be included in the composition in an amount of from 5 to 500 ppm by weight, examples of which are well known in the art (col. 6, lines 26-40). Additionally, relative proportions of the additives to one another is 1:500 to 500:1 parts by weight, which includes 1:10 to 10:1 parts by weight (col. 6, lines 44-47). Further, filterability is improved through reduction of particulates (table 1, col. 7). It is the examiner's opinion that the reduction of particulates would reduce clogging of filters, and would thereby improve filterability.

With regard to (i), (iii), and (iv) above, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to incorporate the organic nitrate of Fava as a cetane improver in Cahil because it would desirably add additional cetane improving capabilities to the composition of Cahil. With regard to (ii) and (v) above, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize 4-hydroxy-2,2,6,6-tetramethylpiperidinyloxy as a stable nitroxide compound in Cahil because it would advantageously influence combustion to reduce emission, as disclosed in Fava (col. 2, lines 40-50), which would also improve filterability.

6. Claim 16 is rejected under U.S.C. 103(a) as being unpatentable over Cahil in view of Fava, and further in view of Pialet (4934303).

The discussion of Cahil and Fava in paragraph 5 above, is herein incorporated by reference.

Cahil and Fava are silent with respect to: (i) the inclusion of at least one antioxidant compound selected from the group consisting of aromatic amine antioxidants and hindered phenolic antioxidants.

Pialet discloses a diesel fuel composition comprising diesel fuel, cetane improver, and antioxidants such as hindered phenols and aromatic amines. The antioxidant is beneficial to the composition because they prevent accumulation of organic peroxides (col. 7, lines 3-15).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize the antioxidants of Pialet in the composition of Cahil and

Fava in order to incorporate beneficial properties of preventing accumulation of organic peroxides.

Response to Arguments

7. Applicant's arguments, filed March 23, 2007, with respect to the rejection(s) of claim(s) 1-15 and 17-20 under 35 USC 102(b) anticipated by Fava, claims 1-6 9-16 and 21 under 35 USC 102(b) anticipated by Wallace, and claims 16 and 21 under 35 USC 103(a) over Fava in view of Wallace, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Fava in view of *Titanium Metals Corp. of America v. Banner* and Pialet, and Cahil in view of Fava and Pialet.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malini Krishnan whose telephone number is 571-272-6519. The examiner can normally be reached on Monday through Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Malini Krishnan

MK

Vasu Jagannathan
VASU JAGANNATHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700